

# **Beyond the City...Wireless in Rural America**

2004 South Dakota Wireless Conference

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CTIA – The Wireless Association™

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# Western State Providers

## Montana



CELLULAR**ONE**™



Triangle Telephone Cooperative and Central Montana Communications  
*Keeping Montanans In Touch With the World*



## Nebraska



CELLULAR**ONE**™

cricket

NEXTEL Partners |



## North Dakota

CELLULAR**ONE**™

EXLEND AMERICA

NEXTEL



## South Dakota

CELLULAR**ONE**™



NEXTEL



## Wyoming

CELLULAR**ONE**™



NEXTEL



T-Mobile





# What do we do?

- We **provide** :
  - Voice
  - Data (e.g., short messaging service, e-mail, office system access);
  - Entertainment / Ringtones
  - And it's all based on multiple technologies which will increasingly inter-communicate
- We **serve** American consumers – wireless carriers serve more than 169 million customers nationwide today
- We **offer** choices - 98% of Americans can now choose from between 3 to 8 wireless providers
- We **build** networks - wireless carriers have invested more than \$146 billion in networks nationwide, over \$19 billion in 2003
- We **employ** citizens - wireless carriers directly employed 205,629 nationwide at year-end 2003
- We **compete** for consumer dollars -- lowering prices and increasing flexibility of service and coverage options

# Why we operate the way we do

- We operate on radio waves – they do not stop at state or local boundaries
- Authorized by the FCC to provide service across different sized service areas that are not limited to geopolitical boundaries
  - Metropolitan Statistical Areas (MSAs), Rural Service Areas (RSAs), Basic Trading Areas (BTAs), and Major Trading Areas (MTAs)
  - In South Dakota, there are 2 MSAs, 9 RSAs, 7 BTAs, and 3 MTAs

# Who regulates us?

- Telecom Act (1993, Section 332(c)) established Federal jurisdiction with limited State role
- States precluded from entry and rate regulation, but allowed to regulate “other terms and conditions”

And the result of a Federal regulatory paradigm with no economic regulation is . . .

# A Decade of More Choices, More Services, and More Benefits for Consumers

## 1993

- 2 providers per market
  - “A regulated duopoly”
- Avg. monthly bill - \$ 61.49
  - Local charges only
  - long distance charges extra
  - roaming charges extra
  - Landline surcharge extra
- 39,810 employees
- \$13.9 billion cumulative capital investment

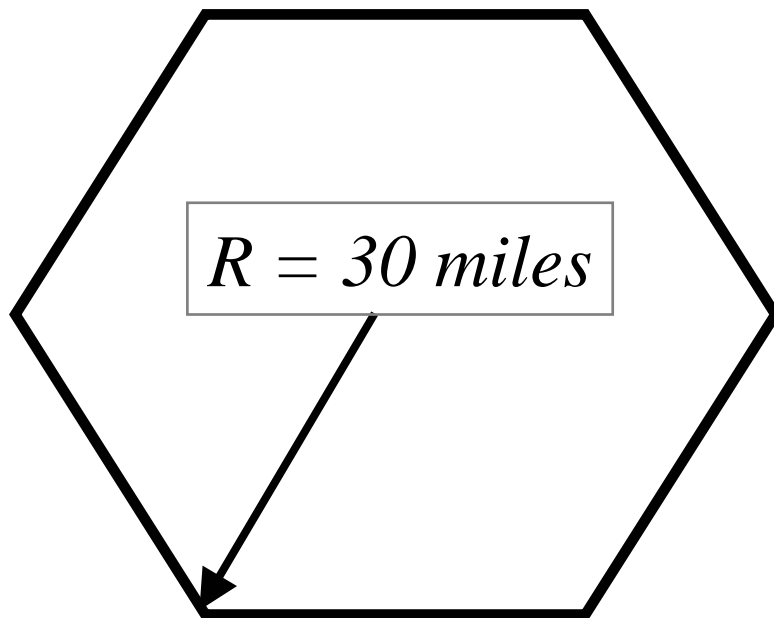
## 2003

- 5 providers per market for 83% of consumers
- In 1993 \$s Avg. monthly bill –  
\$ 38.73, a decline of 37%
  - Nationwide coverage – plans with no roaming charges
  - No long distance charges
  - Subscribers phone on 24/7
- 205,629 employees
- \$146 billion cumulative capital investment

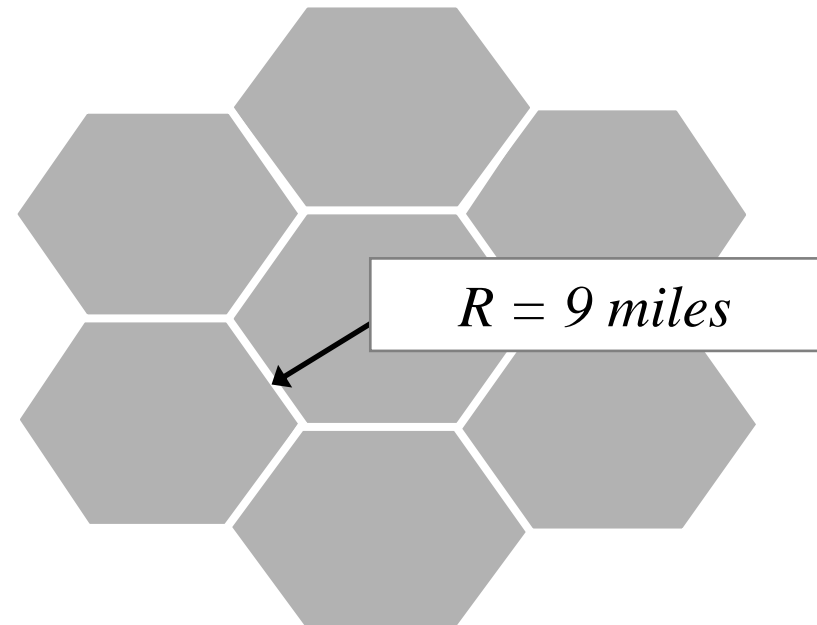


# Efficient Use of Spectrum

## Then...& Now



Early systems used high power on high antennas to maximize range, but channels could not be re-used for great distances.



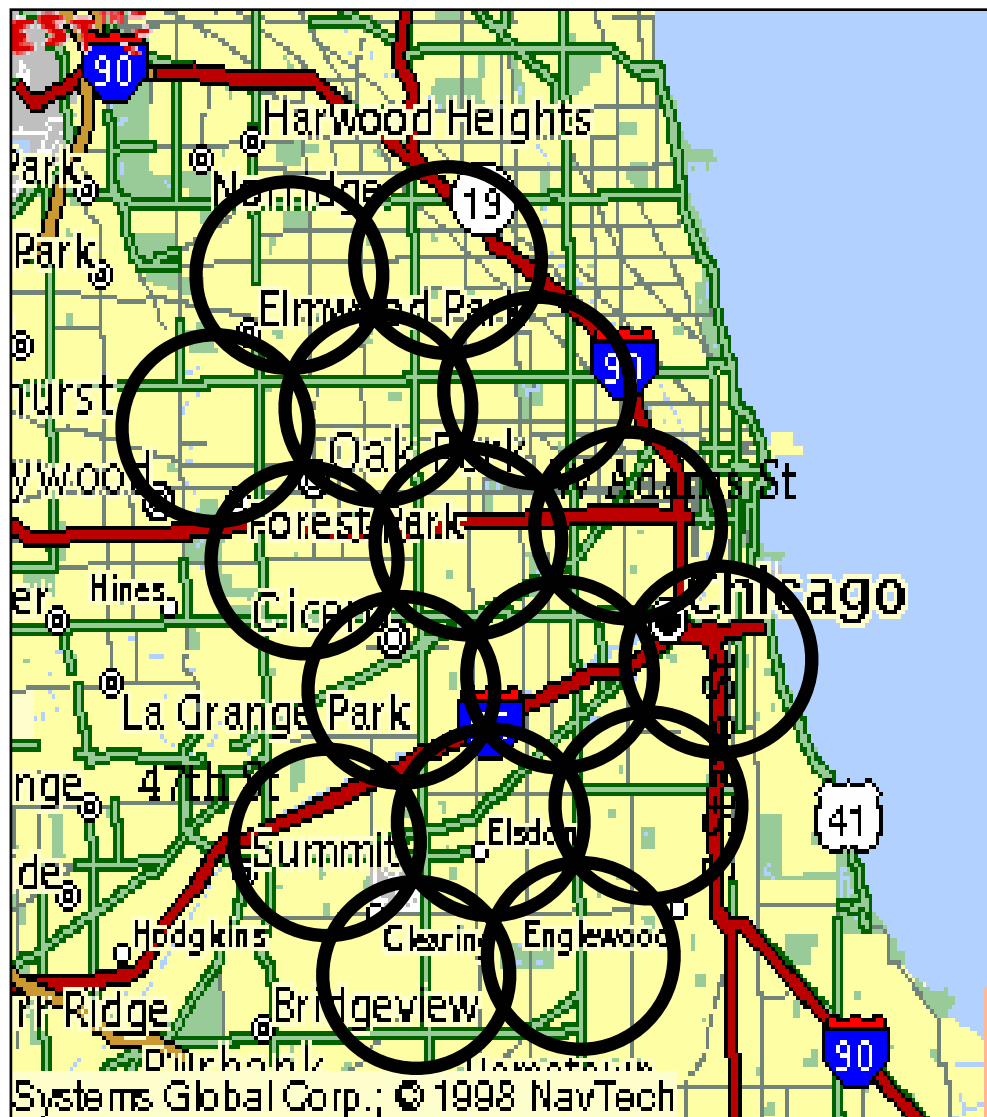
Modern systems use low power and low antennas, radio channels can be re-used more closely, increasing capacity.

## ***Wireless Network Design: Then...***



- **Tall Towers**
  - ✓ Over 200 Feet
- **High Power Emissions**
- **Inadequate Coverage**
  - ✓ 30 Mile Radius
- **Few Radio Channels**
  - ✓ Limited Bandwidth
- **Poor Service**
  - ✓ Unhappy Customers

# Wireless Network Design: ...& Now

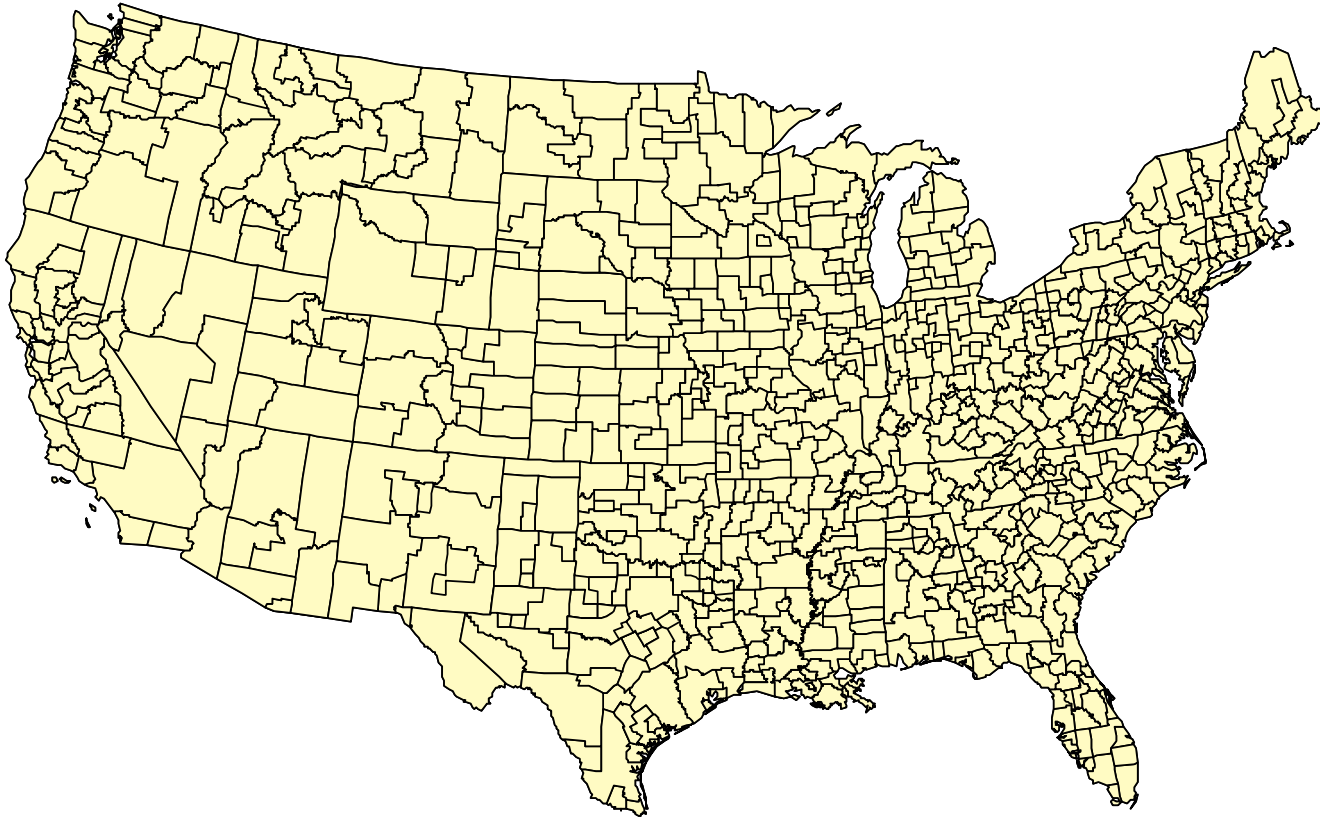


- **Short Towers**
  - ✓ Under 200 Feet
- **Low Power Emissions**
- **Adequate Coverage**
  - ✓ 10 Mile Radius
- **Many Radio Channels**
  - ✓ More Bandwidth
- **Improved Service**
  - ✓ Happier Customers

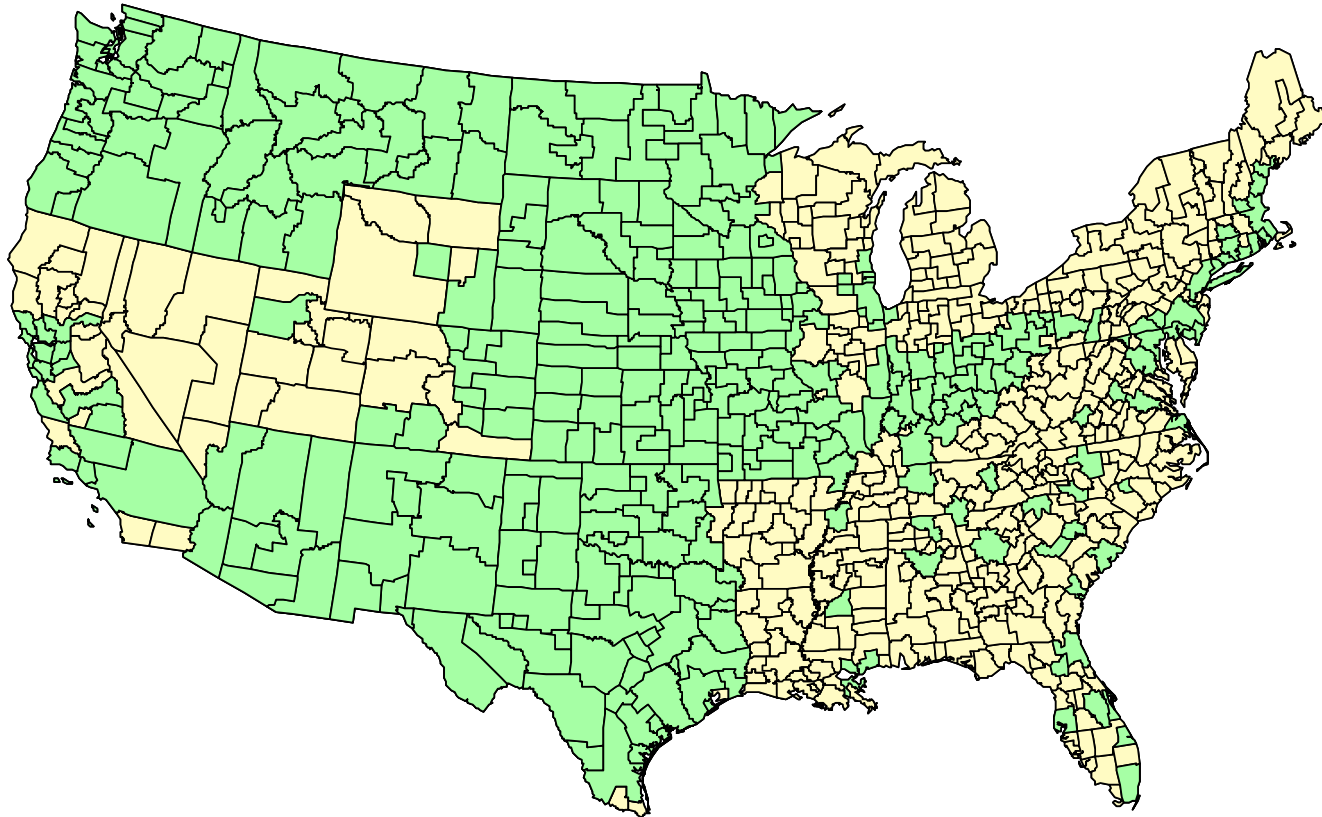
**U.S.**



# Cellular Licensed Areas

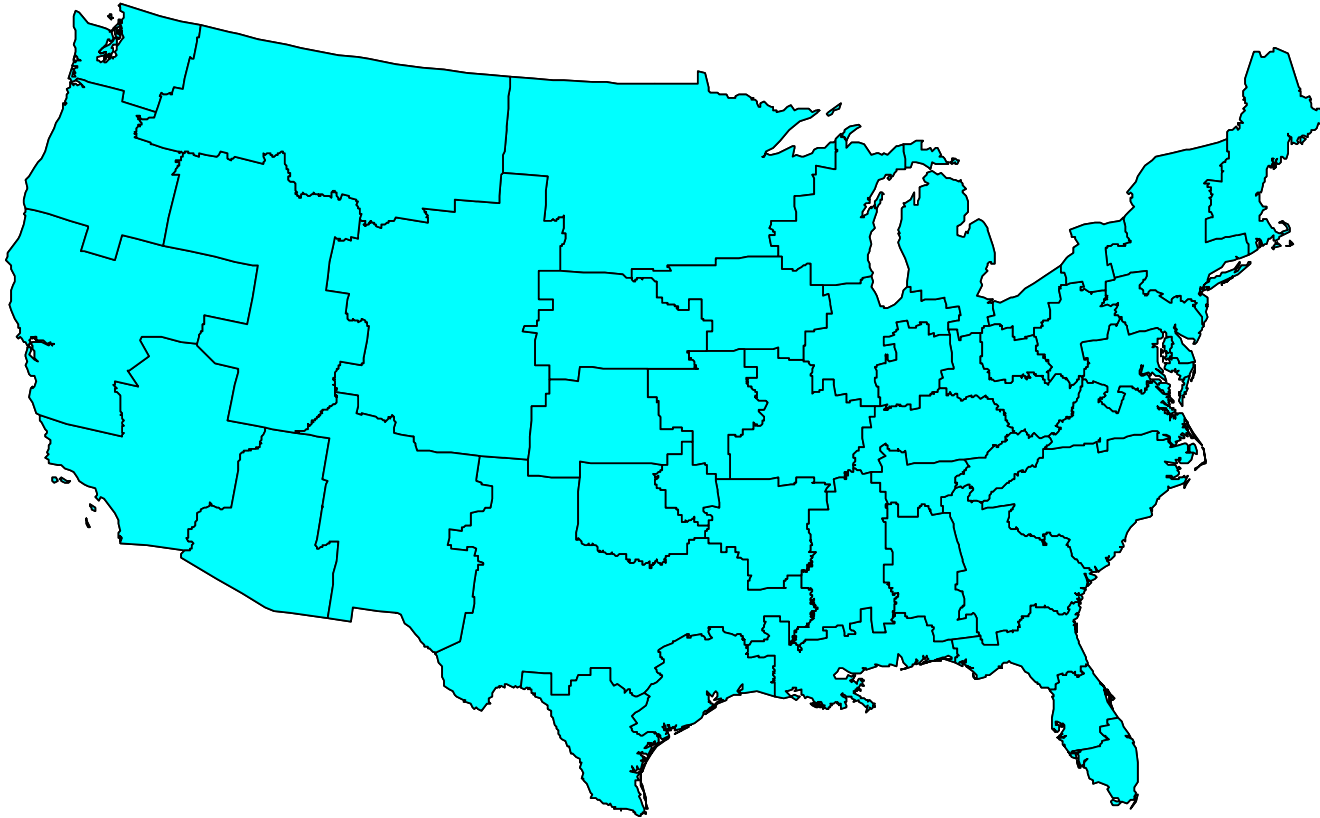


# Combined Cellular and ESMR License Areas

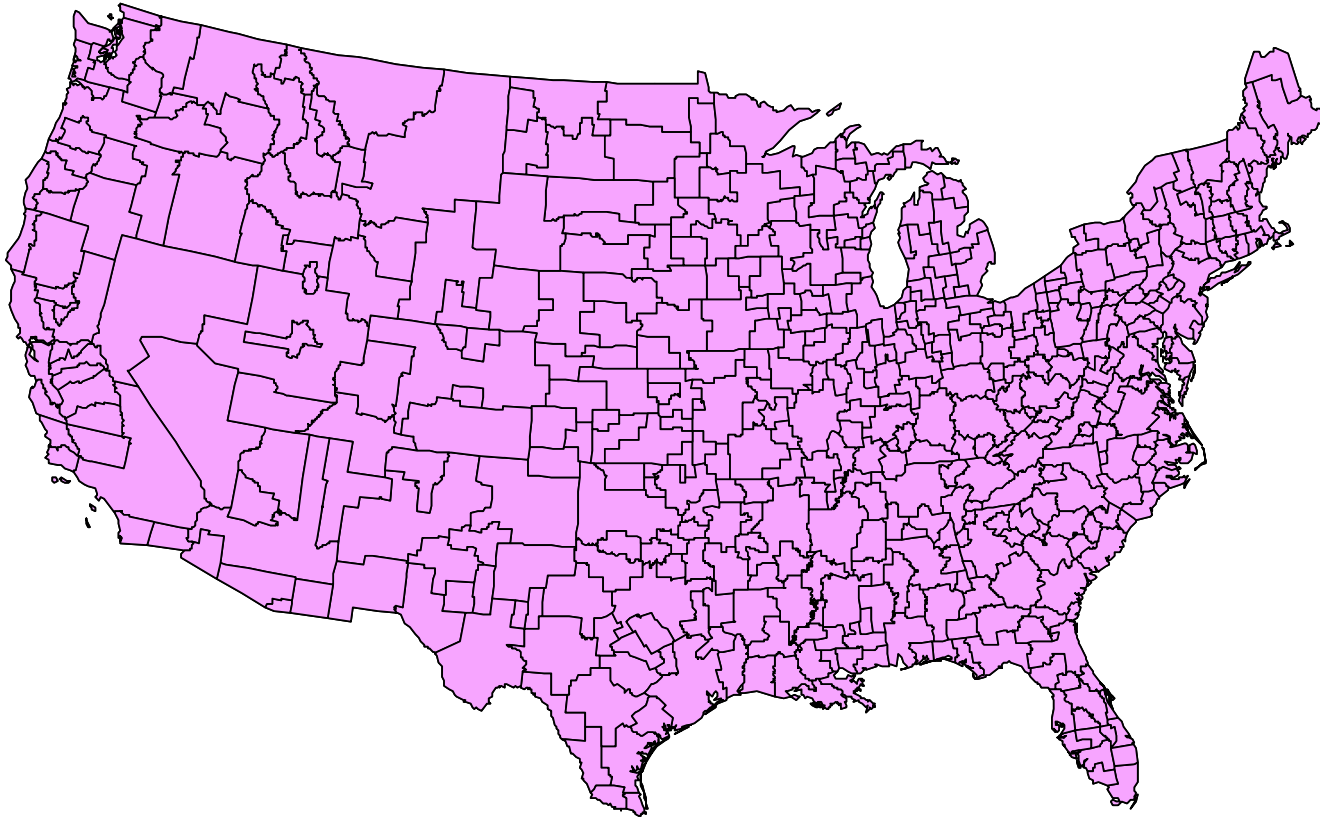




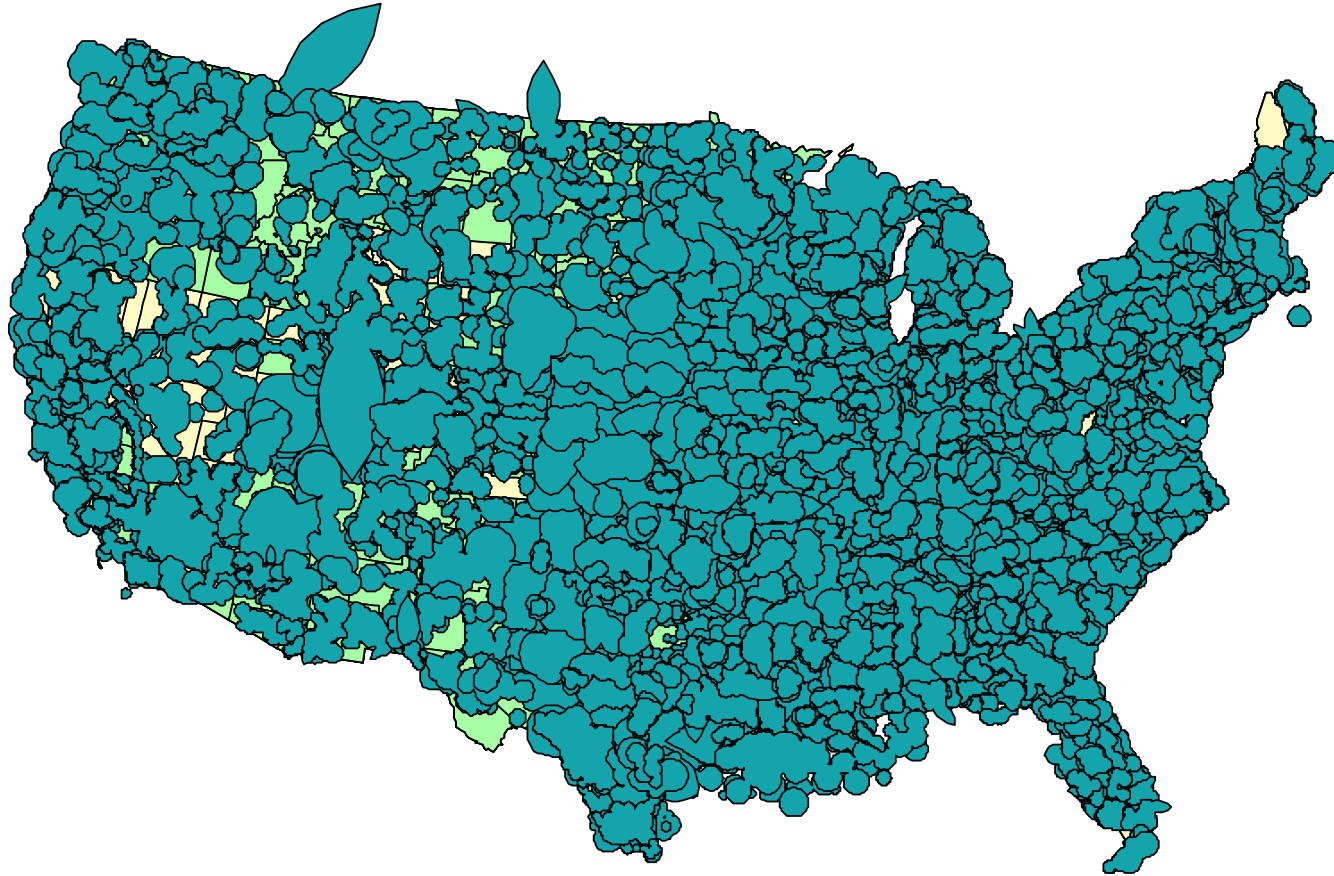
# MTA License Areas



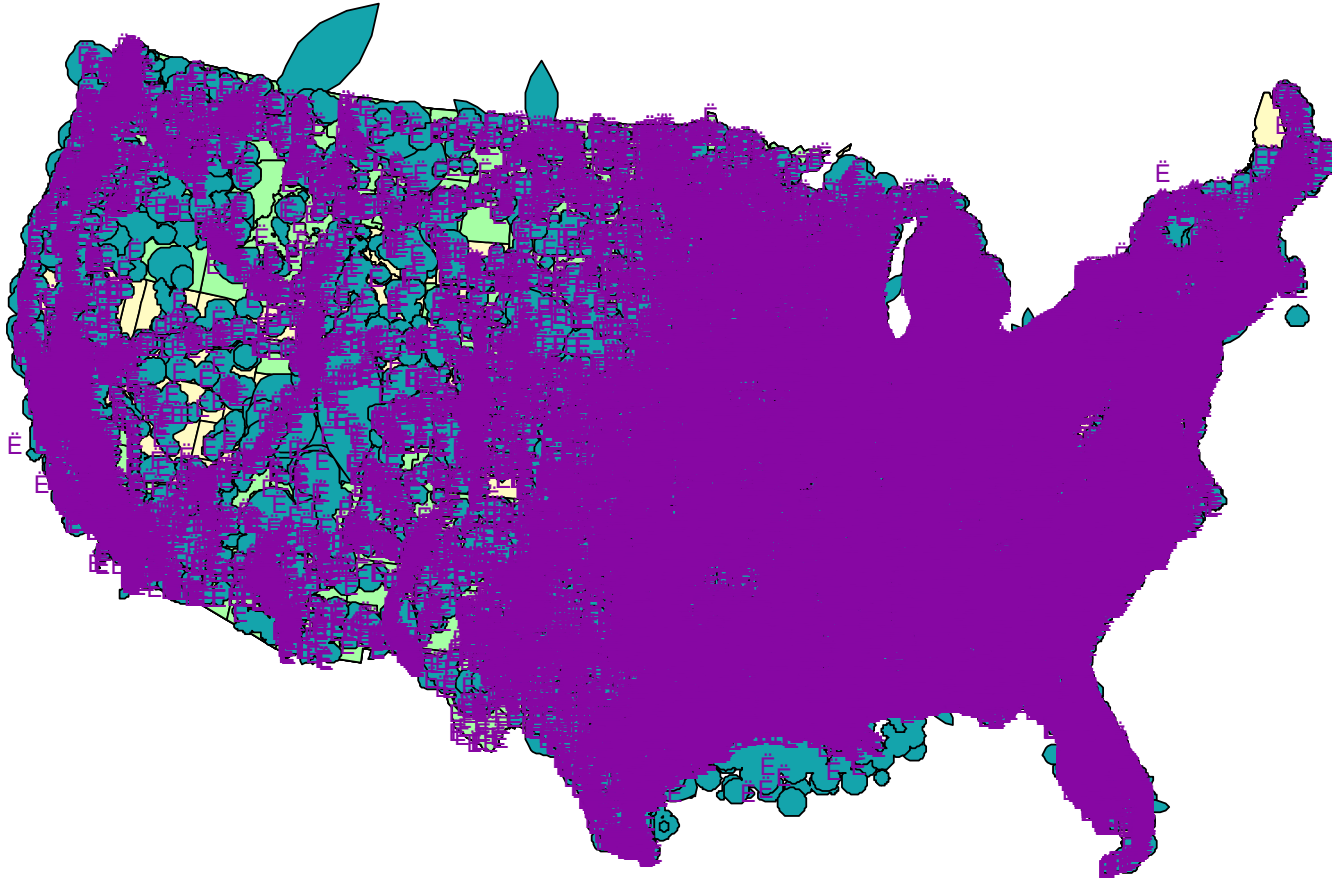
# BTA License Areas



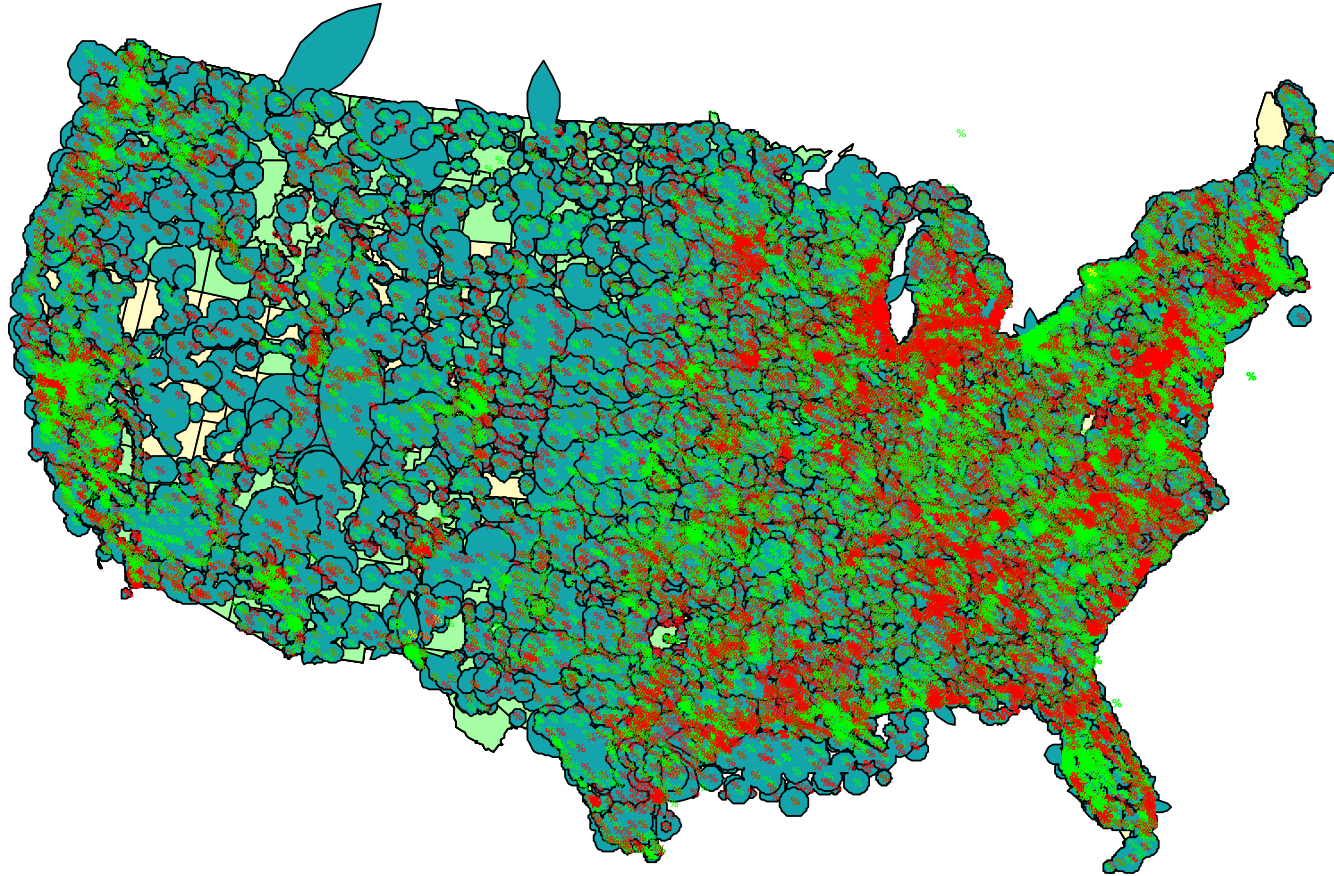
# Combined License and Cellular Coverage Areas



# Towers

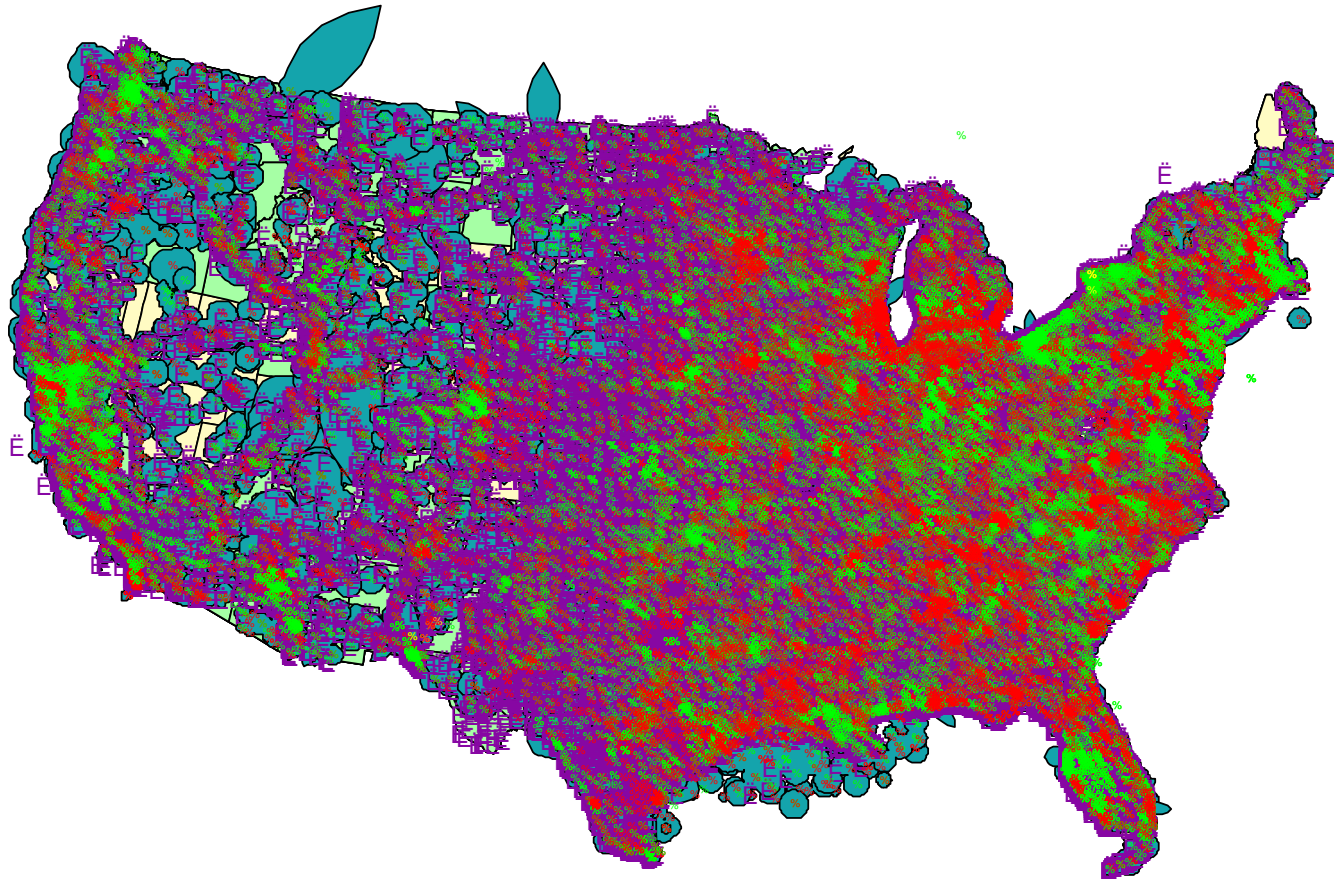


# Cellular Cell Sites





# Wireless Coverage – Towers and Cell Sites





# Challenges the Wireless Industry Faces

- Tower siting
- Inconsistent LNP implementation
- Intercarrier compensation and universal service
- Preserving the centralized, light-touch regulatory paradigm created by Congress in Section 332(c)
  - Voluntary Consumer Code vs. state-by-state mandates
- Access to spectrum
- Unfunded/Under-funded mandates
- Discriminatory Taxation



# Examples of Wireless Services in Rural America

- Through the Wireless Foundation's ClassLink program Western Wireless and Nokia donated 110 wireless phones and airtime to the Oglala Lakota people and the schools of Pine Ridge
  - Also donated 20 Dell laptop computers with 20 wireless high-speed data cards
  - Launched Western Wireless' first high speed wireless data services in the state of South Dakota
  - Cell site built for additional coverage in the Kyle/Porcupine area of the reservation
- Monet – discontinued its high-speed broadband service earlier this year
- Extend America launched high-speed data/voice service within the last year and plans to expand

# State Regulators: The Right Questions

**“Before launching a new round of regulation – with the potential for 51 distinct sets of regulatory obligations – I believe we should first ask ourselves, what problems are we trying to fix and are we adding any value?”**

Kathleen Abernathy, Speech, May 13, 2004, AEI-Brookings

# The Wireless Industry – Competitive & Creative

- Competitive markets benefit consumers because they drive innovation, efficiency, and choice at lowest possible cost and fastest rate of deployment
- Absent market failure, government intervention isn't necessary or desirable, to the contrary, regulatory intervention in a competitive market distorts competition and reduces consumer benefits